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INTELLIGENTIA 2

CENTRAL INTELLIGENCE AGENCY

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SECURITY INFORMATION

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INFORMATION REPORTREPORT NO. CD NO.

COUNTRY

East Germany

DATE DISTR. 7 August 1952

SUBJECT

The Production of a New Copper Alloy at
Niederfinow and Hettstedt

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1. The Niederfinow Metallhuettenwerk is being rebuilt and will be renamed the Kupferwalzwerk, Niederfinow. This plant will work in conjunction with the Walzwerk fuer Buntmetalle, Hettstedt. Both plants are concerned with the production of a new copper alloy. This alloy is at present known as Kuprodur, which is probably a cover name since the term is already in use for an alloy which does not include titanium. The specifications of the new copper alloy are as follows:

copper

silicon (1%)

nickel (2%)

titanium (about 1½%)

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2. The alloy can be tempered like steel by hardening (durch Aushaertung). The blanks are heated to 820° and then chilled in water. The result is a material almost as soft as copper, which can be cut much better than copper, and is particularly suitable for cold rolling and acetylene welding.

3. The following are the strength properties of this alloy:

Brinell hardness kg/mm²...soft approx. 65

tempered " 175

tempered and strain hardened 175-235
(ausgehärtet und verfestigt)

Tensile strength soft approx. 35

tempered " 65

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tempered and strain hardened 85-90

Ductile yield in %....	soft	35-28
	tempered	23-18

tempered and strain hardened 15-7

4. Some 146 tons of this alloy were supplied in ingots from the Elektrochemisches Kombinat, Bitterfeld, to the Werkwerk Thier Buntmetalle, Hettstedt, between January and the end of February. Part of this material was processed at Hettstedt by the addition of 2½% of beryllium. After special heat treatment, strength properties were achieved which were estimated to be greater than those of commercial steel. A plant at Niederfinow is being installed for the cold working of this new copper alloy produced at the Elektrochemisches Kombinat, Bitterfeld, since the plant at Hettstedt is not adequate for present needs. The Niederfinow plant will undertake all further cold rolling of this type of alloy in order to achieve a still greater hardness.
5. Intense interest is being paid to the production and working of these two alloys, which have been found to be particularly suitable for apparatus and equipment necessary in the chemical and shipbuilding industries.
6. It is hoped to cover 70% of the DDR's copper requirements by the end of 1952. The entire production is under strict Russian control, and more than 80% of the total output will probably be earmarked for reparations work; the remainder will go to key industries.

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